

REMARKS

The Office Action mailed July 30, 2004 has been reviewed and carefully considered. The Examiner's allowance of claims 7-9 is appreciated. Claims 1-6 have been canceled without prejudice. Claim 14 has now been redrafted into independent form as claim 10, and canceled. Claims 7-13 remain pending in this case, with claims 7 and 10 being the independent claims. Reconsideration of the above-identified application in view of the following remarks is respectfully requested.

Claims 1-5 and 10-14 stand rejected under 35 U.S.C. 102(b) as anticipated by U.S. Patent No. 6,563,988 to McGreer.

Since claims 1-5 are now canceled, the rejection as to claims 1-5 is moot.

Claim 14, which has now been redrafted into independent form as claim 10, recites:

the input waveguide, comprising the first and second sub-waveguides, is respectively disposed on both sides of the substrate centering on the arrayed waveguide grating, and the output waveguides arranged in parallel with the input waveguide are respectively disposed on both sides of the substrate centering on the arrayed waveguide grating

The inventive construction is discussed in the specification at page 14, lines 5-10.

The McGreer patent is directed to reducing group velocity dispersion

(GVD) in which a channel signal overlaps to interfere with a temporally adjacent signal on the channel (col. 1, lines 30-37). The approach in McGreer is based upon a mode converting tapered waveguide that is joined, on the same light path, to a mode conserving extension that preferably does not provide mode conversion (col. 7, lines 20-28).

The fourth embodiment of McGreer, illustrated in FIG. 8, allows the width of the taper extension to decrease in a light propagating direction, the decrease being sufficiently gradual so as to introduce merely a small amount of mode conversion (col. 15, lines 14-19).

Although several potential shapes are mentioned for the taper extension (col. 15, lines 20-33), including a sinusoidal function having several periods, and that of “any other mathematical function,” McGreer neither discloses nor suggests any interference effect on neighboring channels.

By contrast, the present invention relates to structures of input waveguides that reduce inter-channel interference (page 16, lines 10-14), thereby giving rise to the bidirectional WDM of former claim 14 which is now claim 10.

With respect to claim 10, McGreer discloses at best, and as seen in FIG. 10, two input waveguides and multiple output waveguides arranged consecutively on the same side with the input waveguides. Even at that, the waveguides connect to an

integrated reflection grating, rather than to an AWG. In addition, there is no other side, as in claim 10 of the present invention.

Notably, McGreer does not disclose or suggest that any of its AWG-based WDM embodiments is a bi-directional WDM. In particular, McGreer fails to disclose or suggest the above-quoted limitations appearing explicitly in claim 10.

Item 4 of the Office Action sets forth the basis for rejecting claim 14 which is now claim 10, but does not appear to take into account the afore-stated differences between the above-quoted claim limitations and what fairly can be said to be disclosed or suggested in McGreer.

For at least the foregoing reasons, McGreer fails to anticipate the invention as recited in claim 10. Reconsideration and withdrawal of the rejection is respectfully requested.

Moreover, the prior art of record, alone or in combination, does not appear to make obvious the invention as recited in claim 10 of the present invention.

Claim 6 stands rejected under 35 U.S.C. 103(a) as unpatentable over McGreer an alleged prior art in the application.

The rejection of claim 6 is likewise moot, due to the cancellation of claim 6.

As to the other rejected claims, each depends from base claim 10 and is

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deemed to be patentable over the cited references at least due to its dependency.

In view of the foregoing amendments and remarks, it is believed that this application is now in condition for allowance. The Examiner is invited to contact the undersigned in the event of any perceived outstanding issues so that passage of the case to issue can be effected without the need for a further Office Action.

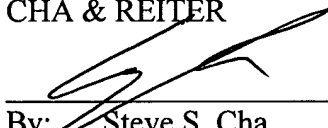
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In the event that any additional fee is required to continue the prosecution of this Application as requested, please charge such fee to Deposit Account No. 502-470.

Respectfully submitted,

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